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                 CA/CAplus enhanced with CAS indexing in pre-1907 records
                 Full-text patent databases enhanced with predefined
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                 patent family display formats from INPADOCDB
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         AUG 27
                 USPATOLD now available on STN
NEWS 16 AUG 28
                 CAS REGISTRY enhanced with additional experimental
                 spectral property data
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                 STN AnaVist, Version 2.0, now available with Derwent
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         SEP 17
                 CAplus coverage extended to include traditional medicine
                 patents
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              AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.
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```
chain nodes :
6 7 8 16 17 21 22 23
ring nodes :
1 2 3 4 5 10 11 12 13 14 15 26 27 28 29
chain bonds :
1-6 5-8 6-7 6-26 8-10 13-16 16-17 17-21 21-22 22-23
ring bonds :
1-2 1-5 2-3 3-4 4-5 10-11 10-15 11-12 12-13 13-14 14-15
                                                          26-27 26-31
27-28 28-29 29-30 30-31
exact/norm bonds :
1-2 1-5 1-6 2-3 3-4 4-5 5-8 6-7 6-26 8-10 10-11 10-15 11-12 12-13
13-14 13-16 14-15 16-17 17-21 21-22 22-23
normalized bonds :
26-27 26-31 27-28 28-29 29-30 30-31
isolated ring systems :
containing 1 : 26 :
```

## G1:C,O,S,N

## Match level:

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:CLASS 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:CLASS 17:CLASS 21:CLASS 22:CLASS 23:CLASS 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom

=> d 11

L1 HAS NO ANSWERS

L1STR

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 08:43:00 FILE 'REGISTRY' SAMPLE SCREEN SEARCH COMPLETED -633 TO ITERATE

100.0% PROCESSED

633 ITERATIONS

2 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

> \*\*COMPLETE\*\* BATCH

PROJECTED ITERATIONS:

11151 TO 14169

PROJECTED ANSWERS:

2 TO 124

L2

2 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 08:43:10 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - 12901 TO ITERATE

100.0% PROCESSED 12901 ITERATIONS

49 ANSWERS

SEARCH TIME: 00.00.01

L3

49 SEA SSS FUL LT

=> file caplus

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SINCE FILE TOTAL

FULL ESTIMATED COST

SESSION ENTRY 172.10 172.31

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L43 L3

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ANSWER 1 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:700231 CAPLUS

DOCUMENT NUMBER: 145:167259

TITLE: Preparation of heterocyclic derivatives as PPAR

 $\alpha$  and PPAR  $\gamma$  agonists

INVENTOR(S): Takahashi, Yoko; Nagata, Ryu; Ushiroda, Kantaro

PATENT ASSIGNEE(S): Dainippon Sumitomo Pharma Co., Ltd., Japan

SOURCE: PCT Int. Appl., 195 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PA'	PATENT NO.				KIND		DATE		APPLICATION NO.					DATE			
WO	WO 2006075638			A1 20060720			WO 2006-JP300248				20060112						
	W:	ΑE,	AG,	AL,	AM,			AZ,									
								DK,									
								IL,									
								LU,									
								OM,								SD,	SE,
		SG,	SK,	SL,	SM,	SY,	· TJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,
		VN,	YU,	ZA,	ZM,	zw											
	RW:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	ΗU,	ΙE,
		IS,	IT,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	ВJ,
		CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	NE,	SN,	TD,	TG,	BW,	GH,
		GM,	KΕ,	LS,	MW,	MZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	AZ,	BY,
				MD,													
EP	EP 1837329			A1 20070926			EP 2006-702664				20060112						
	R:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,
					LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR	
PRIORITY APPLN. INFO.:								JP 2	005-	6950		1	A 2	0050	114		
										WO 2	006-	JP30	0248	1	W 2	0060	112
OTHER SOURCE(S):				MARPAT 145:167259													

GI

The title compds. I [the ring Z is an optionally substituted heteroaryl; W4 is a single bond, lower alkylene, lower alkenylene, etc., Ar2 is an optionally substituted aryl, optionally substituted heteroaryl; W3 is a single bond, lower alkylene, lower alkenylene, etc.; Ar1 is an optionally substituted arylene, optionally substituted heteroarylene; each of W1 and W2 is an optionally substituted lower alkylene, optionally substituted lower alkenylene; and R1 is carboxyl, an alkoxycarbonyl, optionally substituted carbamoyl, etc.] are prepared Thus, 2-methyl-2-[(4-((1Z)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl)benzyl)oxy]propionic acid was prepared in a multistep process starting from 1-benzenesulfonyl-1H-pyrrole and p-toluoyl chloride. The PPAR  $\alpha$  and PPAR  $\gamma$  agonist activities of compds. of this invention at 10µM were demonstrated.

IT 900181-73-9P

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of heterocyclic derivs. as PPAR  $\alpha$  and PPAR  $\gamma$  agonists)

RN 900181-73-9 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1Z)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

IT 900181-74-0P 900181-75-1P 900181-76-2P

900182-62-9P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of heterocyclic derivs. as PPAR  $\alpha$  and PPAR  $\gamma$  agonists)

RN 900181-74-0 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1Z)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]methoxy]-, sodium salt (9CI) (CA INDEX NAME)

Na

RN 900181-75-1 CAPLUS

CN Propanoic acid, 2-[[4-[(1Z)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, ethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 900181-76-2 CAPLUS

CN Benzoic acid, 4-[[1-[(2Z)-3-[4-[(2-ethoxy-1-methyl-2-oxoethoxy)methyl]phenyl]-2-propenyl]-1H-pyrrol-2-yl]carbonyl]-, methyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 900182-62-9 CAPLUS

CN Propanoic acid, 2-[[(2E)-3-[4-[[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]methyl]phenyl]-2-propenyl]oxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

IT 900183-62-2P 900183-69-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of heterocyclic derivs. as PPAR  $\alpha$  and PPAR  $\gamma$  agonists)

RN 900183-62-2 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1Z)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 900183-69-9 CAPLUS

CN Morpholine, 4-[(2R)-2-[[(2E)-3-[4-[[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]methyl]phenyl]-2-propenyl]oxy]-1-oxopropyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

REFERENCE COUNT:

18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN ACCESSION NUMBER: 2006:677588 CAPLUS

DOCUMENT NUMBER:

145:124570

TITLE:

Preparation of 2-benzoylpyrrole, 2-benzoylimidazole,

2-benzoylbenzimidazole derivatives and related

compounds for treatment or prevention of

hyperlipidemia, arteriosclerosis, and/or metabolic

syndrome

INVENTOR(S):

Nagano, Tomokazu

PATENT ASSIGNEE(S): SOURCE:

Dainippon Pharmaceutical Co., Ltd., Japan

Jpn. Kokai Tokkyo Koho, 181 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006182668 PRIORITY APPLN. INFO.:	Α	20060713	JP 2004-375862 JP 2004-375862	20041227
OTHER SOURCE(S):	MARPAT	145:124570	01 2004 373002	20041227

$$R1?-X1?-Ar1?-W1? - Z? - Ar2?$$

$$I$$

$$Me$$

$$O$$

$$N$$

$$I$$

$$I$$

The title compds. [e.g. I; Zb = (un) substituted pyrrole, pyrazole, AB imidazole, triazole, indole, indazole, or benzimidazole; W2b = a single bond, SO, SO2, (un) substituted CONH or SO2NH, (un) substituted C1-4 alkylene, C2-4 alkenylene, or C2-4 alkynylene optionally two H atoms of methylene group substituted with 0 to form a CO group; Ar1b, Ar2b = (un) substituted aryl or heteroaryl; Wlb = (un) substituted C1-5 alkylene, C2-5 alkenylene, or C2-5 alkynylene, -Yb-W3b- (Yb = 0, S, (un)substituted NH; W3b = (un)substituted C1-4 alkylene, C2-4 alkenylene, or C2-4 alkynylene), etc.; X1b = S02, OCO2, S020, (un)substituted CONHS02, NHS02, NHCO, SO2NHCO, SO2NH, CONH, OCONH, NHCONH, or NHC(NH2):N-, etc.; R1b = CO2H, alkoxycarbonyl, (un) substituted CONH2, cyclic aminocarbonyl, alkylsulfonylcarbamoyl, arylsulfonylcarbonyl, or heteroarylsulfonylcarbonyl, tetrazolyl, 2,4-dioxooxazolidin-5-yl, etc.] are prepared These compds. are agonists (activators) of PPAR $\alpha$  and/or PPAR $\gamma$  and not only improve hyperglycemia but also possess lipid improving activity such as improving hypertriglyceridemia and increasing HDL cholesterol. They are useful for the treatment or prevention of hyperlipidemia, arteriosclerosis, and/or the metabolic syndrome. example, compound (II).Na activated human PPARlpha and human PPAR $\gamma$ by 15.1 and 7.0%, resp., at 10  $\mu M$ . When it was administered to mice at 30 mg/kg for 2 wk p.o., it lowered blood sugar and triglyceride by 70 and

89%, resp., and increased HDL by 41%.

IT 840503-43-7P, (2R)-3-Hydroxy-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic acid methyl ester 840503-44-8P, (2R)-2-Hydroxy-3-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic acid ethyl ester 897939-51-4P, (2R)-3-[(tert-Butyldimethylsilyl)oxy]-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic acid

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation of 2-benzoylpyrrole, 2-benzoylimidazole, 2-benzoylbenzimidazole derivs. and related compds. for treatment or prevention of hyperlipidemia, arteriosclerosis, and/or metabolic syndrome)

RN 840503-43-7 CAPLUS

CN Propanoic acid, 3-hydroxy-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840503-44-8 CAPLUS

CN Propanoic acid, 2-hydroxy-3-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, ethyl ester, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 897939-51-4 CAPLUS

CN Propanoic acid, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

```
IT
     840502-24-1P, 2-Methyl-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-
     pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic acid 840502-27-4P
     (2R)^{-2} = [4 - [(1E)^{-3} - [2 - (4 - Methylbenzoyl)^{-1} + pyrrol^{-1} - yl]prop^{-1} - en^{-1}
     yl]benzyl]oxy]propionic acid 840502-29-6P, (2S)-2-[[4-[(1E)-3-[2-1]]]
     (4-Methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic acid
     840502-32-1P, (2S)-2-[[4-[(1E)-3-[2-(4-Methylbenzoyl)-1H-pyrrol-1-
     yl]prop-1-en-1-yl]benzyl]oxy]propionic acid 1,3-dihydroxy-2-
     (hydroxymethyl)propan-2-amine salt 840502-33-2P,
     (2R)-2-[[4-[(1E)-3-[2-(4-Methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-
     yl]benzyl]oxy]propionic acid 1,3-dihydroxy-2-(hydroxymethyl)propan-2-amine
     salt 840502-34-3P, (2R)-2-[[4-[3-[2-(4-Methylbenzoyl)-1H-pyrrol-
     1-yl]propyl]benzyl]oxy]propionic acid 840502-36-5P
     840502-39-8P 840502-42-3P 840502-44-5P
     840502-45-6P 840502-46-7P 840502-48-9P
     840502-49-0P 840502-51-4P 840502-76-3P
     840502-77-4P 840502-78-5P 840502-80-9P
     840502-81-0P 840502-87-6P 840502-98-9P,
     2-Methyl-2-[[4-[(1E)-2-methyl-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]prop-1-
     en-1-yl]benzyl]oxy]propionic acid 840502-99-0P
     840503-00-6P, (2R)-2-Hydroxy-3-[{4-(1E)-3-[2-(4-methylbenzoyl)-1H-
     pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic acid 840503-01-7P
     en-1-yl]benzyl]oxy]propionic acid 840503-34-6P,
     2-Methyl-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]
     yl]benzyl]oxy]propionic acid methyl ester 840503-36-8P,
     (2R)-2-[[4-[(1E)-3-[2-(4-Methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]
     yl]benzyl]oxy]propionic acid methyl ester 840503-38-0P,
     (2S)-2-[[4-[(1E)-3-[2-(4-Methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-
     yl]benzyl]oxy]propionic acid methyl ester 897939-49-0P
     897939-91-2P 897939-93-4P 897939-95-6P
     897939-96-7P 897939-97-8P 897939-98-9P
     897939-99-0P 897940-00-0P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
        (preparation of 2-benzoylpyrrole, 2-benzoylimidazole, 2-benzoylbenzimidazole
        derivs. and related compds. for treatment or prevention of
        hyperlipidemia, arteriosclerosis, and/or metabolic syndrome)
RN
     840502-24-1 CAPLUS
     Propanoic acid, 2-methyl-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-
CN
     yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)
```

RN 840502-27-4 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840502-29-6 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

RN 840502-32-1 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2S)-, compd. with 2-amino-2-(hydroxymethyl)-1,3-propanediol (1:1) (9CI) (CA INDEX NAME)

CRN 840502-29-6 CMF C25 H25 N O4

Absolute stereochemistry. Double bond geometry as shown.

CM 2

CRN 77-86-1 CMF C4 H11 N O3

$$\begin{array}{c} {\rm NH_2} \\ {\rm HO-CH_2-C-CH_2-OH} \\ {\rm CH_2-OH} \end{array}$$

RN 840502-33-2 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)-, compd. with 2-amino-2-(hydroxymethyl)-1,3-propanediol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 840502-27-4 CMF C25 H25 N O4

Absolute stereochemistry. Double bond geometry as shown.

CM 2

CRN 77-86-1 CMF C4 H11 N O3

RN 840502-34-3 CAPLUS

CN Propanoic acid, 2-[[4-[3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]propyl]phenyl]methoxy]-, (2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 840502-36-5 CAPLUS

CN Propanamide, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-N-(methylsulfonyl)-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

RN 840502-39-8 CAPLUS

CN Butanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

RN 840502-42-3 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-ethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

RN 840502-44-5 CAPLUS

CN Propanoic acid, 2-[(4-[(1E)-3-[2-(4-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

RN 840502-45-6 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(3-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

RN 840502-46-7 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-ethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-48-9 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-49-0 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-4-methyl-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

RN 840502-51-4 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(3,5-dimethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-76-3 CAPLUS

CN Propanoic acid, 2-[[6-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]-3-pyridinyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

$$\begin{array}{c} \text{Me} \\ \text{HO}_2\text{C} \\ \\ \text{O} \\ \\ \text{N} \\ \\ \text{Me} \\ \end{array}$$

RN 840502-77-4 CAPLUS

CN Propanoic acid, 2-[[5-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]-2-thienyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

$$\begin{array}{c|c} & & & \\ & & & \\ N & & & \\ \hline & & & \\ N & & & \\ \hline & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ & &$$

RN 840502-78-5 CAPLUS

CN Propanoic acid, 2-methyl-2-[[5-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]-2-thienyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-80-9 CAPLUS

CN Propanoic acid, 2-[1-[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]ethoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-81-0 CAPLUS

CN Butanoic acid, 3-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

RN 840502-87-6 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]propyl]phenyl]methoxy]- (CA INDEX NAME)

RN 840502-98-9 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1E)-2-methyl-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-99-0 CAPLUS

CN Propanoic acid, 3-hydroxy-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

RN 840503-00-6 CAPLUS

CN Propanoic acid, 2-hydroxy-3-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840503-01-7 CAPLUS

CN Propanoic acid, 2-methoxy-3-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840503-34-6 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester (9CI) (CA INDEX NAME)

RN 840503-36-8 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840503-38-0 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 897939-49-0 CAPLUS

CN Propanoic acid, 2-methyl-2-[2-[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]ethoxy]- (9CI) (CA INDEX: NAME)

RN 897939-91-2 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, sodium salt, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

Na

RN 897939-93-4 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, sodium salt, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 897939-95-6 CAPLUS

CN Propanoic acid, 2-[[4-[3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]propyl]phenyl]methoxy]-, sodium salt, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Na 🖢

RN 897939-96-7 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(3-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl-, sodium salt (9CI) (CA INDEX NAME)

Double bond geometry as shown.

Na

RN 897939-97-8 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-ethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl-, sodium salt (9CI) (CA INDEX NAME)

Na

RN 897939-98-9 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl-, sodium salt (9CI) (CA INDEX NAME)

Double bond geometry as shown.

● Na

RN 897939-99-0 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, sodium salt, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

Na

RN 897940-00-0 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-ethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, sodium salt, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

Na

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ACCESSION NUMBER:

2005:120880 CAPLUS

DOCUMENT NUMBER: TITLE:

142:219144
Preparation of benzoylpyrrole derivatives as PPAR

agonist

INVENTOR(S):

Watanabe, Ken-ichi; Maruta, Katsunori; Ushiroda,

Kantaro; Nagata, Ryu

PATENT ASSIGNEE(S):

Sumitomo Pharmaceuticals Co., Ltd., Japan

PCT Int. Appl., 121 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

SOURCE:

Japanese

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
		X		
WO 2005012245	A1	20050210	WO 2004-JP10282	20040713

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PRIORITY APPLN. INFO.:
                                                JP 2003-274684
                                                                         20030715
                                                WO 2004-JP10282
                                                                         20040713
OTHER SOURCE(S):
                           MARPAT 142:219144
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$$R^{1-W^{1-O-W^{2}-Ar^{1-W^{3}-Z}}$$
 $W^{4-Ar^{2}}$ 
 $W^{4-Ar^{2}}$ 

GΙ

AB Title compds. represented by the formula I [wherein ring Z =(un) substituted heteroaryl; R1 = carboxyl, alkoxycarbonyl, (un) substituted carbamoyl, etc.; W1, W2 = independently (un) substituted alkyl; Ar1 = (un) substituted (hetero) arylene; W3 = single bond, alkylene, alkenylene or Y1W5; Y1 = O, S, SO or SO2; W5 = alkylene or alkenylene; W4 = single bond, amino(alkylene), alkylene, alkenylene; Ar2 = (un)substituted (hetero)aryl; their prodrugs, and pharmaceutically acceptable salts thereof] were prepared as PPAR $\alpha$  and PPAR $\gamma$  agonist. For example, II was given in a multi-step synthesis starting from Me 2-hydroxyisobutyrate. Selected I showed agonic activity of PPAR $\alpha$  and PPAR $\gamma$ , and were tested for lowering blood sugar effect. Thus, I are useful as PPAR $\alpha$  and PPARy agonists for the treatment of diabetes. IΤ 840502-24-1P 840502-27-4P 840502-29-6P 840502-32-1P 840502-33-2P 840502-34-3P 840502-36-5P 840502-39-8P 840502-42-3P 840502-44-5P 840502-45-6P 840502-46-7P 840502-48-9P 840502-49-0P 840502-51-4P 840502-76-3P 840502-77-4P 840502-78-5P 840502-79-6P 840502-80-9P 840502-81-0P 840502-87-6P 840502-98-9P 840502-99-0P 840503-00-6P 840503-01-7P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of benzoylpyrrole derivs. as PPAR agonist for treatment of diabetes)

RN 840502-24-1 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-27-4 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

RN 840502-29-6 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840502-32-1 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2S)-, compd. with 2-amino-2-(hydroxymethyl)-1,3-propanediol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 840502-29-6 CMF C25 H25 N O4

Absolute stereochemistry. Double bond geometry as shown.

CM 2

CRN 77-86-1 CMF C4 H11 N O3

$$\begin{array}{c} ^{\rm NH_2} \\ ^{\rm HO-\,CH_2-C-\,CH_2-\,OH} \\ ^{\rm I} \\ ^{\rm CH_2-\,OH} \end{array}$$

RN 840502-33-2 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)-, compd. with 2-amino-2-(hydroxymethyl)-1,3-propanediol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 840502-27-4 CMF C25 H25 N O4

Absolute stereochemistry. Double bond geometry as shown.

CM 2

CRN 77-86-1 CMF C4 H11 N O3

$$\begin{array}{c} ^{\rm NH_2} \\ ^{\rm I} \\ ^{\rm HO-\,CH_2-C-\,CH_2-\,OH} \\ ^{\rm I} \\ ^{\rm CH_2-\,OH} \end{array}$$

RN 840502-34-3 CAPLUS

CN Propanoic acid, 2-[[4-[3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]propyl]phenyl]methoxy]-, (2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 840502-36-5 CAPLUS

CN Propanamide, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-N-(methylsulfonyl)-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840502-39-8 CAPLUS

CN Butanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-42-3 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-ethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840502-44-5 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840502-45-6 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(3-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-46-7 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-ethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-48-9 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

RN 840502-49-0 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-4-methyl-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-51-4 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(3,5-dimethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-76-3 CAPLUS

CN Propanoic acid, 2-[[6-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]-3-pyridinyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-77-4 CAPLUS

CN Propanoic acid, 2-[[5-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]-2-thienyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-78-5 CAPLUS

CN Propanoic acid, 2-methyl-2-[[5-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]-2-thienyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-79-6 CAPLUS

CN Propanoic acid, 2-methyl-2-[2-[6-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]-3-pyridinyl]ethoxy]- (9CI) (CA INDEX NAME)

RN 840502-80-9 CAPLUS

CN Propanoic acid, 2-[1-[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]ethoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-81-0 CAPLUS

CN Butanoic acid, 3-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-87-6 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]propyl]phenyl]methoxy]- (CA INDEX NAME)

RN 840502-98-9 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1E)-2-methyl-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN .840502-99-0 CAPLUS

CN Propanoic acid, 3-hydroxy-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840503-00-6 CAPLUS

CN Propanoic acid, 2-hydroxy-3-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840503-01-7 CAPLUS

CN Propanoic acid, 2-methoxy-3-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

IT 840503-34-6P 840503-36-8P 840503-38-0P

840503-42-6P 840503-43-7P 840503-44-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of benzoylpyrrole derivs. as PPAR agonist for treatment of diabetes)

RN 840503-34-6 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840503-38-0 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840503-42-6 CAPLUS

CN Propanoic acid, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy}-, methyl ester, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840503-43-7 CAPLUS

CN Propanoic acid, 3-hydroxy-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840503-44-8 CAPLUS

CN Propanoic acid, 2-hydroxy-3-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, ethyl ester, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

REFERENCE COUNT:

14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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FULL ESTIMATED COST

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http://www.cas.org/support/stngen/stndoc/properties.html

=>

Uploading C:\Program Files\Stnexp\Queries\10563361.str

```
chain nodes :
6 7 8 16 17 21 22 23
ring nodes :
1 2 3 4 5 10 11 12 13 14 15 28 29 30 31
chain bonds :
1-6 5-8 6-7 6-28 8-10 13-16 16-17 17-21 21-22 22-23
ring bonds :
1-2 1-5 2-3 3-4 4-5 10-11 10-15 11-12 12-13 13-14 14-15 28-29 28-33
29-30 30-31 31-32 32-33
exact/norm bonds :
1-2 1-5 1-6 2-3 3-4 4-5 5-8 6-7 6-28 8-10 10-11 10-15 11-12 12-13
13-14 13-16 14-15 16-17 17-21 21-22 22-23
normalized bonds :
28-29 28-33 29-30 30-31 31-32 32-33
isolated ring systems :
containing 1 : 28 :
```

## G1:C,O,S,N

Match level:
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:CLASS 7:CLASS 8:CLASS 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:CLASS 17:CLASS 21:CLASS 22:CLASS 23:CLASS 28:Atom 29:Atom 30:Atom 31:Atom 32:Atom 33:Atom

=> d 11

L1 HAS NO ANSWERS

L1STR

Structure attributes must be viewed using STN Express query preparation.

=> s 11

SAMPLE SEARCH INITIATED 06:09:58 FILE 'REGISTRY' SAMPLE SCREEN SEARCH COMPLETED -

198 TO ITERATE

100.0% PROCESSED

198 ITERATIONS

2 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:

ONLINE \*\*COMPLETE\*\*

BATCH

\*\*COMPLETE\*\*

PROJECTED ITERATIONS:

3116 TO

4804

PROJECTED ANSWERS:

2 TO

124

L2

2 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 06:10:03 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED -

4023 TO ITERATE

100.0% PROCESSED

4023 ITERATIONS

53 ANSWERS

SEARCH TIME: 00.00.01

L3

53 SEA SSS FUL L1

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

FULL ESTIMATED COST

ENTRY 172.10 SESSION 172.52 FILE 'CAPLUS' ENTERED AT 06:10:09 ON 01 NOV 2007
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http://www.cas.org/infopolicy.html

=> s 13 full

L4 6 L3

=> d ibib abs hitstr tot

L4 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

KIND

ACCESSION NUMBER: 2006:700231 CAPLUS

DOCUMENT NUMBER: 145:167259

TITLE: Preparation of heterocyclic derivatives as PPAR

 $\alpha$  and PPAR  $\gamma$  agonists

INVENTOR(S): Takahashi, Yoko; Nagata, Ryu; Ushiroda, Kantaro

PATENT ASSIGNEE(S): Dainippon Sumitomo Pharma Co., Ltd., Japan

DATE

SOURCE: PCT Int. Appl., 195 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

WO 2006075638			A1	A1 20060720				WO 2	006-	20060112							
	W:	ΑE,	AG,	AL,	AM,	AT,	AU,	AZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
		CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,
		GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KM,	KN,	KP,	KR,
		ΚZ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,
		MZ,	NA,	NG,	NI,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,
		SG,	SK,	SL,	SM,	SY,	TJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,
		VN,	YU,	ZA,	ŻM,	ZW											
	RW:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	ΙE,
		IS,	IT,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	BJ,
		CF,	CG,	CI,	CM,	GΑ,	GN,	GQ,	GW,	ML,	MR,	NE,	SN,	TD,	TG,	BW,	GH,
		GM,	KE,	LS,	MW,	MZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,
		KG,	ΚZ,	MD,	RU,	TJ,	TM										
EP 1837329			A1 20070926				EP 2006-702664						20060112				
	R:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	IE,
		IS,	IT,	LI,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR	
ORITY APPLN. INFO.:								JP 2005-6950					2	A 20050114			
								WO 2006-JP300248						1	W 20060112		

APPLICATION NO.

DATE

OTHER SOURCE(S):

$$R^{1-W^{1}-O-W^{2}-Ar^{1}-W^{3}}$$
  $Z$   $W^{4}-Ar^{2}$  I

AB The title compds. I [the ring Z is an optionally substituted heteroaryl; W4 is a single bond, lower alkylene, lower alkenylene, etc., Ar2 is an optionally substituted aryl, optionally substituted heteroaryl; W3 is a single bond, lower alkylene, lower alkenylene, etc.; Ar1 is an optionally substituted arylene, optionally substituted heteroarylene; each of W1 and W2 is an optionally substituted lower alkylene, optionally substituted lower alkenylene; and R1 is carboxyl, an alkoxycarbonyl, optionally substituted carbamoyl, etc.] are prepared Thus, 2-methyl-2-[(4-((1Z)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl)benzyl)oxy]propionic acid was prepared in a multistep process starting from 1-benzenesulfonyl-1H-pyrrole and p-toluoyl chloride. The PPAR α and PPAR γ agonist activities of compds. of this invention at 10μM were demonstrated.

IT 900181-73-9P
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(preparation of heterocyclic derivs. as PPAR  $\alpha$  and PPAR  $\gamma$  agonists)

RN 900181-73-9 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1Z)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

IT 900181-74-0P 900181-75-1P 900181-76-2P 900182-62-9P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of heterocyclic derivs. as PPAR  $\alpha$  and PPAR  $\gamma$  agonists)

RN 900181-74-0 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1Z)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, sodium salt (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 900181-75-1 CAPLUS

CN Propanoic acid, 2-[[4-[(1Z)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, ethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 900181-76-2 CAPLUS

CN Benzoic acid, 4-[[1-[(2Z)-3-[4-[(2-ethoxy-1-methyl-2-oxoethoxy)methyl]phenyl]-2-propenyl]-1H-pyrrol-2-yl]carbonyl]-, methyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 900182-62-9 CAPLUS

CN Propanoic acid, 2-[[(2E)-3-[4-[[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]methyl]phenyl]-2-propenyl]oxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

IT 900183-62-2P 900183-69-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Réactant or reagent)

(preparation of heterocyclic derivs. as PPAR  $\alpha$  and PPAR  $\gamma$  agonists)

RN 900183-62-2 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1Z)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 900183-69-9 CAPLUS

CN Morpholine, 4-[(2R)-2-[[(2E)-3-[4-[[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]methyl]phenyl]-2-propenyl]oxy]-1-oxopropyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:677588 CAPLUS

DOCUMENT NUMBER: 145:124570

TITLE: Preparation of 2-benzoylpyrrole, 2-benzoylimidazole,

2-benzoylbenzimidazole derivatives and related

compounds for treatment or prevention of

hyperlipidemia, arteriosclerosis, and/or metabolic

syndrome

INVENTOR(S): Nagano, Tomokazu

PATENT ASSIGNEE(S): Dainippon Pharmaceutical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 181 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE		
JP 2006182668	Α.	20060713	JP 2004-375862	20041227		
PRIORITY APPLN. INFO.:			JP 2004-375862	20041227		
OTHER SOURCE(S):	MARPAT	145:124570				
GI						

$$R^{1?} = X^{1?} = A_r^{1?} = W^{1?} = \left(\frac{Z^2}{Z^2}\right) = W^{2?} = A_r^{2?}$$

The title compds. [e.g. I; Zb = (un) substituted pyrrole, pyrazole, AB imidazole, triazole, indole, indazole, or benzimidazole; W2b = a single bond, SO, SO2, (un) substituted CONH or SO2NH, (un) substituted C1-4 alkylene, C2-4 alkenylene, or C2-4 alkynylene optionally two H atoms of methylene group substituted with 0 to form a CO group; Ar1b, Ar2b = (un) substituted aryl or heteroaryl; Wlb = (un) substituted C1-5 alkylene, C2-5 alkenylene, or C2-5 alkynylene, -Yb-W3b- (Yb = O, S, (un)substituted NH; W3b = (un)substituted C1-4 alkylene, C2-4 alkenylene, or C2-4 alkynylene), etc.; X1b = S02, OCO2, S020, (un)substituted CONHSO2, NHSO2, NHCO, SO2NHCO, SO2NH, CONH, OCONH, NHCONH, or NHC(NH2):N-, etc.; R1b = CO2H, alkoxycarbonyl, (un) substituted CONH2, cyclic aminocarbonyl, alkylsulfonylcarbamoyl, arylsulfonylcarbonyl, or heteroarylsulfonylcarbonyl, tetrazolyl, 2,4-dioxooxazolidin-5-yl, etc.] are prepared These compds. are agonists (activators) of PPARα and/or PPARy and not only improve hyperglycemia but also possess lipid improving activity such as improving hypertriglyceridemia and increasing HDL cholesterol. They are useful for the treatment or prevention of hyperlipidemia, arteriosclerosis, and/or the metabolic syndrome. For

II

example, compound (II).Na activated human PPAR $\alpha$  and human PPAR $\gamma$  by 15.1 and 7.0%, resp., at 10  $\mu$ M. When it was administered to mice at 30 mg/kg for 2 wk p.o., it lowered blood sugar and triglyceride by 70 and 89%, resp., and increased HDL by 41%.

IT 840503-43-7P, (2R)-3-Hydroxy-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic acid methyl ester 897939-51-4P, (2R)-3-[(tert-Butyldimethylsilyl)oxy]-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic acid

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation of 2-benzoylpyrrole, 2-benzoylimidazole, 2-benzoylbenzimidazole derivs. and related compds. for treatment or prevention of hyperlipidemia, arteriosclerosis, and/or metabolic syndrome)

RN 840503-43-7 CAPLUS

CN Propanoic acid, 3-hydroxy-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 897939-51-4 CAPLUS

CN Propanoic acid, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

IT 840502-24-1P, 2-Methyl-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-

```
pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic acid 840502-27-4P
, (2R)-2-[[4-[(1E)-3-[2-(4-Methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-
yl]benzyl]oxy]propionic acid 840502-29-6P, (2S)-2-[[4-[(1E)-3-[2-1]]]
(4-Methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic acid
840502-32-1P, (2S)-2-[[4-[(1E)-3-[2-(4-Methylbenzoyl)-1H-pyrrol-1-
yl]prop-1-en-1-yl]benzyl]oxy]propionic acid 1,3-dihydroxy-2-
(hydroxymethyl)propan-2-amine salt 840502-33-2P,
(2R)-2-[[4-[(1E)-3-[2-(4-Methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]
yl]benzyl]oxy]propionic acid 1,3-dihydroxy-2-(hydroxymethyl)propan-2-amine
salt 840502-34-3P, (2R)-2-[[4-[3-[2-(4-Methylbenzoyl)-1H-pyrrol-
1-yl]propyl]benzyl]oxy]propionic acid 840502-36-5P
840502-39-8P 840502-42-3P 840502-44-5P
840502-45-6P 840502-46-7P 840502-48-9P
840502-49-0P 840502-51-4P 840502-76-3P
840502-77-4P 840502-78-5P 840502-80-9P
840502-87-6P 840502-98-9P, 2-Methyl-2-[[4-[(1E)-2-methyl-
3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic
acid 840502-99-0P 840503-34-6P, 2-Methyl-2-[[4-[(1E)-3-
[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic
acid methyl ester 840503-36-8P, (2R)-2-[[4-[(1E)-3-[2-(4-1)]]]
Methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic acid
methyl ester 840503-38-0P, (2S)-2-[[4-[(1E)-3-[2-(4-1)]]]
Methylbenzoyl)-1H-pyrrol-1-yl]prop-1-en-1-yl]benzyl]oxy]propionic acid
methyl ester 897939-49-0P 897939-91-2P
897939-93-4P 897939-95-6P 897939-96-7P
897939-97-8P 897939-98-9P 897939-99-0P
897940-00-0P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
(Uses)
   (preparation of 2-benzoylpyrrole, 2-benzoylimidazole, 2-benzoylbenzimidazole
   derivs. and related compds. for treatment or prevention of
   hyperlipidemia, arteriosclerosis, and/or metabolic syndrome)
840502-24-1 CAPLUS
Propanoic acid, 2\text{-methyl-}2\text{-}[[4\text{-}[(1\text{E})\text{-}3\text{-}[2\text{-}(4\text{-methylbenzoyl})\text{-}1\text{H-pyrrol-}1\text{-}
yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)
```

Double bond geometry as shown.,

RN

CN.

RN 840502-27-4 CAPLUS
CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840502-29-6 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

RN 840502-32-1 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2S)-, compd. with 2-amino-2-(hydroxymethyl)-1,3-propanediol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 840502-29-6 CMF C25 H25 N O4

Absolute stereochemistry.

Double bond geometry as shown.

CM 2

CRN 77-86-1 CMF C4 H11 N O3

$$\begin{array}{c} & \text{NH}_2 \\ | \\ \text{HO-CH}_2 - \text{C-CH}_2 - \text{OH} \\ | \\ \text{CH}_2 - \text{OH} \end{array}$$

RN 840502-33-2 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)-, compd. with 2-amino-2-(hydroxymethyl)-1,3-propanediol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 840502-27-4 CMF C25 H25 N O4

Absolute stereochemistry. Double bond geometry as shown.

CM 2

CRN 77-86-1 CMF C4 H11 N O3

$$\begin{array}{c} ^{\rm NH_2} \\ | \\ {\rm HO-CH_2-C-CH_2-OH} \\ | \\ {\rm CH_2-OH} \end{array}$$

RN 840502-34-3 CAPLUS

CN Propanoic acid, 2-[[4-[3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]propyl]phenyl]methoxy]-, (2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 840502-36-5 CAPLUS

CN Propanamide, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-N-(methylsulfonyl)-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840502-39-8 CAPLUS

CN Butanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-42-3 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-ethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840502-44-5 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840502-45-6 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(3-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-46-7 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-ethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-48-9 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-49-0 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-4-methyl-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-51-4 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(3,5-dimethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-76-3 CAPLUS

CN Propanoic acid, 2-[[6-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]-3-pyridinyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-77-4 CAPLUS

CN Propanoic acid, 2-[[5-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-

propenyl]-2-thienyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-78-5 CAPLUS

CN Propanoic acid, 2-methyl-2-[[5-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]-2-thienyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-80-9 CAPLUS

CN Propanoic acid, 2-[1-[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]ethoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-87-6 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]propyl]phenyl]methoxy]- (CA INDEX NAME)

RN 840502-98-9 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1E)-2-methyl-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-99-0 CAPLUS

CN Propanoic acid, 3-hydroxy-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

RN 840503-34-6 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840503-36-8 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

RN 840503-38-0 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

RN 897939-49-0 CAPLUS

CN Propanoic acid, 2-methyl-2-[2-[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]ethoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 897939-91-2 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, sodium salt, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

Na

RN 897939-93-4 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, sodium salt, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

RN 897939-95-6 CAPLUS

CN Propanoic acid, 2-[[4-[3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]propyl]phenyl]methoxy]-, sodium salt, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Na

RN 897939-96-7 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(3-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl-, sodium salt (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 897939-97-8 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-ethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl-, sodium salt (9CI) (CA INDEX NAME)

Double bond geometry as shown.

Na

RN 897939-98-9 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl-, sodium salt (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 897939-99-0 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, sodium salt, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

● Na

RN 897940-00-0 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-ethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, sodium salt, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

ANSWER 3 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN L4

ACCESSION NUMBER: 2005:120880 CAPLUS

DOCUMENT NUMBER: 142:219144

TITLE: Preparation of benzoylpyrrole derivatives as PPAR

agonist

INVENTOR(S): Watanabe, Ken-ichi; Maruta, Katsunori; Ushiroda,

Kantaro; Nagata, Ryu

PATENT ASSIGNEE(S): Sumitomo Pharmaceuticals Co., Ltd., Japan

PCT Int. Appl., 121 pp. SOURCE:

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

]	PATENT NO.						KIND DATE							· ·					
7	WO 2005012245								<del></del> 2004-										
		W:	AE,	AG,	AL,	AM,	AT,	AU,	ΑZ,	BA,	BB	, BG,	BR,	BW,	BY,	BZ,	CA,	CH,	
												, EC,							
			GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS	, JP,	KE,	KG,	KP,	KR,	KZ,	LC,	
												, MK,							
												, sc,							
												, UZ,							
		RW:										, SL,							
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				TD,				•	•	•			•	~,	•				
(	CA 2531064			A1 20050210				CA	2004-	2531	20040713								
								EP 2004-747746					20040713						
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												, HU,			,	,	,	,	
1	US 2006194857													20040713					
										CN 2004-80026235									
	IN 2006CN00142					Α	A 20070629			IN 2006-CN142						20060112			
									MX 2006-PA539										
	RIORITY APPLN. INFO.:											2003-							
												2004-					0040		
OTHER	THER SOURCE(S):					MAR	PAT	142:	2191					<b>-</b>				3	
GI								·											

Title compds. represented by the formula I [wherein ring Z =AB (un) substituted heteroaryl; R1 = carboxyl, alkoxycarbonyl, (un) substituted carbamoyl, etc.; W1, W2 = independently (un) substituted alkyl; Ar1 = (un) substituted (hetero) arylene; W3 = single bond, alkylene, alkenylene or Y1W5; Y1 = 0, S, SO or SO2; W5 = alkylene or alkenylene; W4 = single bond, amino(alkylene), alkylene, alkenylene; Ar2 = (un)substituted (hetero)aryl; their prodrugs, and pharmaceutically acceptable salts thereof] were prepared as PPAR $\alpha$  and PPAR $\gamma$  agonist. For example, II was given in a multi-step synthesis starting from Me 2-hydroxyisobutyrate. Selected I showed agonic activity of PPAR $\alpha$  and PPAR $\gamma$ , and were tested for lowering blood sugar effect. Thus, I are useful as PPAR $\alpha$  and PPARy agonists for the treatment of diabetes. IT 840502-24-1P 840502-27-4P 840502-29-6P 840502-32-1P 840502-33-2P 840502-34-3P 840502-36-5P 840502-39-8P 840502-42-3P 840502-44-5P 840502-45-6P 840502-46-7P 840502-48-9P 840502-49-0P 840502-51-4P 840502-76-3P 840502-77-4P 840502-78-5P 840502-79-6P 840502-80-9P 840502-87-6P 840502-98-9P 840502-99-0P RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (preparation of benzoylpyrrole derivs. as PPAR agonist for treatment of diabetes) RN 840502-24-1 CAPLUS Propanoic acid, 2-methyl-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-CN yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

II

Double bond geometry as shown.

0

RN 840502-27-4 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

RN 840502-29-6 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840502-32-1 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2S)-, compd. with 2-amino-2-(hydroxymethyl)-

1,3-propanediol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 840502-29-6 CMF C25 H25 N O4

Absolute stereochemistry.

Double bond geometry as shown.

CM 2

CRN 77-86-1 CMF C4 H11 N O3

$$\begin{array}{c} & \text{NH}_2 \\ | \\ \text{HO-CH}_2 - \text{C-CH}_2 - \text{OH} \\ | \\ \text{CH}_2 - \text{OH} \end{array}$$

RN 840502-33-2 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)-, compd. with 2-amino-2-(hydroxymethyl)-1,3-propanediol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 840502-27-4 CMF C25 H25 N O4

Absolute stereochemistry.

Double bond geometry as shown.

CM 2

CRN 77-86-1 CMF C4 H11 N O3

$$\begin{array}{c|c} & \text{NH}_2 \\ \text{HO-CH}_2 - \text{C-CH}_2 - \text{OH} \\ & \text{CH}_2 - \text{OH} \end{array}$$

RN 840502-34-3 CAPLUS

CN Propanoic acid, 2-[[4-[3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]propyl]phenyl]methoxy]-, (2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 840502-36-5 CAPLUS

CN Propanamide, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-N-(methylsulfonyl)-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

RN 840502-39-8 CAPLUS

CN Butanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-42-3 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-ethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840502-44-5 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

RN 840502-45-6 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(3-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-46-7 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-ethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-48-9 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-49-0 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methoxybenzoyl)-4-methyl-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-51-4 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(3,5-dimethylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-2-methyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-76-3 CAPLUS

CN Propanoic acid, 2-[[6-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-[4-methylbenzoyl)]

propenyl]-3-pyridinyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-77-4 CAPLUS

CN Propanoic acid, 2-[[5-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]-2-thienyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-78-5 CAPLUS

CN Propanoic acid, 2-methyl-2-[[5-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]-2-thienyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-79-6 CAPLUS

CN Propanoic acid, 2-methyl-2-[2-[6-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]-3-pyridinyl]ethoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-80-9 CAPLUS

CN Propanoic acid, 2-[1-[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]ethoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-87-6 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]propyl]phenyl]methoxy]- (CA INDEX NAME)

RN 840502-98-9 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1E)-2-methyl-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 840502-99-0 CAPLUS

CN Propanoic acid, 3-hydroxy-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

IT 840503-34-6P 840503-36-8P 840503-38-0P

840503-42-6P 840503-43-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of benzoylpyrrole derivs. as PPAR agonist for treatment of diabetes)

RN 840503-34-6 CAPLUS

CN Propanoic acid, 2-methyl-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester (9CI) (CA INDEX NAME)

RN 840503-36-8 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840503-38-0 CAPLUS

CN Propanoic acid, 2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

RN 840503-42-6 CAPLUS

CN Propanoic acid, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl

Absolute stereochemistry. Double bond geometry as shown.

RN 840503-43-7 CAPLUS

CN Propanoic acid, 3-hydroxy-2-[[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenyl]methoxy]-, methyl ester, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:811768 CAPLUS

DOCUMENT NUMBER: 139:302057

TITLE: Pyrrole derivatives as PPAR activators and

hypolipidemics

INVENTOR(S): Tsuchida, Atsushi; Yasuchi, Mutsuo; Maruta, Katsunori;

Iwai, Kiyotaka; Kito, Makoto; Nagata, Ryu
Sumitomo Pharmaceuticals Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 69 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT ASSIGNEE(S):

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE								
	JP 2003292439	A	20031015	JP 2002-168110	20020610								
PRIO	RITY APPLN. INFO.:			JP 2002-26824 A	20020204								
OTHE	R SOURCE(S):	MARPAT	139:302057	•									
AB	Pyrrole derivs. (Ma	rkush's	structures	given) are claimed as P	PAR-α								
	and $-\gamma$ activators and hypolipidemics.												
IT	474006-64-9P 474006-65-0P 474006-68-3P												
	474006-69-4P 474006-83-2P 474007-43-7P												
	474007-45-9P												
	RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU												
	(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES												
	(Uses)												
	(pyrrole derivs.	as PPA	R activators	and hypolipidemics)									
RN	474006-64-9 CAPLUS												
CN	Acetic acid, [4-[(1	E)-3-[2	-(4-methylbe	nzoyl)-1H-pyrrol-1-yl]-	1-								

Double bond geometry as shown.

propenyl]phenoxy]- (9CI) (CA INDEX NAME)

RN 474006-65-0 CAPLUS

CN Acetic acid, [4-[(1E)-3-[2-(4-methoxybenzoyl)-4-methyl-1H-pyrrol-1-yl]-1-propenyl]phenoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 474006-68-3 CAPLUS

CN Acetic acid, [4-[(1E)-4-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-butenyl]phenoxy]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 474006-69-4 CAPLUS
CN Acetic acid, [4-[(1E)-4-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-butenyl]phenoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 474006-83-2 CAPLUS
CN Acetic acid, [4-[3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propynyl]phenoxy]-, sodium salt (9CI) (CA INDEX NAME)

$$C = C - CH_2$$
 $N$ 
 $C = Me$ 

## Na

RN 474007-43-7 CAPLUS

CN Propanoic acid, 2-[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 474007-45-9 CAPLUS

CN Propanoic acid, 2-[4-[(1E)-3-[2-[4-(1-methylethyl)benzoyl]-1H-pyrrol-1-yl]-1-propenyl]phenoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

L4 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

2003:671033 CAPLUS

DOCUMENT NUMBER:

139:191450

TITLE:

Pyrrole derivatives as liver glyconeogenesis

inhibitors

INVENTOR(S):

Nagata, Ryu; Kito, Makoto; Itakura, Yasushi Sumitomo Pharmaceuticals Co., Ltd., Japan

PATENT ASSIGNEE(S): SOURCE:

Jpn. Kokai Tokkyo Koho, 73 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

1

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE		
JP 2003238403	Α	20030827	JP 2002-32125	20020208		
PRIORITY APPLN. INFO.:			JP 2002-32125	20020208		
OMILED COLLDGE / C) .	142 D D 2 M	120.101450				

OTHER SOURCE(S):

MARPAT 139:191450

AB Pyrrole derivs. (Markush's structures given) are claimed as liver glyconeogenesis inhibitors for treatment of diabetes and complications. The pyrrole derivs. were prepared, and their antidiabetic effects were tested.

IT 474006-64-9P 474006-65-0P 474006-68-3P 474006-69-4P 474007-43-7P 474007-45-9P 585526-80-3P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(pyrrole derivs. as liver glyconeogenesis inhibitors and antidiabetics)

RN 474006-64-9 CAPLUS

CN Acetic acid, [4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 474006-65-0 CAPLUS

CN Acetic acid, [4-[(1E)-3-[2-(4-methoxybenzoyl)-4-methyl-1H-pyrrol-1-yl]-1-propenyl]phenoxy]- (9CI) (CA INDEX NAME)

RN 474006-68-3 CAPLUS

CN Acetic acid, [4-[(1E)-4-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-butenyl]phenoxy]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 474006-69-4 CAPLUS

CN Acetic acid, [4-[(1E)-4-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-butenyl]phenoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 474007-43-7 CAPLUS

CN Propanoic acid, 2-[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenoxy]- (9CI) (CA INDEX NAME)

474007-45-9 CAPLUS RN

Propanoic acid, 2-[4-[(1E)-3-[2-[4-(1-methylethyl)benzoyl]-1H-pyrrol-1-yl]-1CN 1-propenyl]phenoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 585526-80-3 CAPLUS

Acetic acid, [4-[3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-CN propynyl]phenoxy]- (9CI) (CA INDEX NAME)

$$C = C - CH_2$$
 $N = C$ 
 $Me$ 

ANSWER 6 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN

2002:832756 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 137:337775

TITLE: Preparation of pyrrole derivatives having antidiabetic

activity

Nagata, Ryu; Maruta, Katsunori; Iwai, Kiyotaka; Kitoh, INVENTOR(S):

Makoto; Ushiroda, Kantaro; Yoshida, Kozo

PATENT ASSIGNEE(S): Sumitomo Pharmaceuticals Company, Limited, Japan

SOURCE:

PCT Int. Appl., 248 pp.

CODEN: PIXXD2

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

	PATENT NO.				KIN	D	DATE		i	APPL:	ICAT:	ION 1	NO.		DATE			
	WO 2002085851			A1	A1 20021031 WO 2002-JP3790				90	20020417								
		W:	ΑE,	AG,	AL,	AM,	ΑT,	AU,	AZ,	BA,	BB,	BG,	BR,	BY,	BZ,	CA,	CH,	CN,
			co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB,	GD,	GE,	GH,
								IN,										
			LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	NZ,	OM,	PH,	PL,
			PT,	RO,	RU,	SD,	SE,	SG,	SI,	SK,	SL,	ТJ,	TM,	TN,	TR,	TT,	TZ,	UA,
			UG,	US,	UZ,	VN,	YU,	ZA,	ZM,	ZW								
		RW:	GH,	GM,	KE,	LS,	MW,	MZ,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AT,	BE,	CH,
			CY,	DE,	DK,	ES,	FI,	FR,	GB,	GR,	IE,	IT,	LU,	MC,	NL,	PT,	SE,	TR,
				•	•		•	CM,	•								•	•
AU 2002251462			A1	•	2002	1105		AU 2	002-	2514	62	•	20020417					
EP 1386913			A1 20040204					EP 2002-720442					20020417					
		R:	AT,	BE,	CH,	DE,	DK,	ES,	FR.	GB,	GR,	IT,	LI,	LU,	NL.	SE,	MC,	PT.
			•	•	•	•	•	RO,	•	•	•	•	•	•	•	•	•	•
	US 2004162331			•	•	•	•	•			4749	43		20031016				
US 7220773			В2															
PRIO	RIT'	Y APP	LN.	INFO	. :						JP 2	001-	1208	87	1	A 2	0010	419
										1	WO 2	002-	JP37	90	Ţ	v 2	0020	417
OTHE	R S	OURCE	(S):			MAR	PAT	137:	3377					-		_		
GT			, ,															

$$R^{5}$$
 $R^{2}$ 
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 $R^{3}$ 
 $R^{3$ 

$$Q^{1} = -W^{13} - X^{13} \times Z^{6}$$
 $(R^{10})_{n}$ 

Novel pyrrole derivs. represented by the following formula (I) and salts thereof [R1 = Q, W12-X12-Ar1, Q1, etc. {wherein X11 = a single bond, O, S; W11 = each (un)substituted C2-5 alkylene, alkenylene, or alkynylene; one of Z1 and Z2 = a C atom substituted by X1-Y1-COR6 (wherein X1 = a single bond, O, S; Y1 = each (un)substituted C1-4 alkylene, C2-5 alkenylene, or C2-5 alkynylene; R6 = HO, each (un)substituted C1-4 alkoxy, C1-4 alkylsulfonylamino, or phenylsulfonylamino) and the other = H, HO, halo, cyano, CONH2, C2-5 alkylaminocarbonyl, etc.; Z3, Z4, Z5 = (un)substituted CH; Ar1 = substituted naphthyl; X12 = a single bond, O, S; W12 = (un)substituted C1-4 alkylene; X13 = a single bond, O, S; W13 = (un)substituted C1-4 alkylene; one of R8 and R9 = X3-Y3-COR11 (wherein X3 = a single bond, O, S; Y3 = (un)substituted C1-4 alkylene, C2-5 alkenylene, or C2-5 alkynylene; R11 = HO, (un)substituted C1-4 alkoxy,

C1-4 alkylsulfonylamino, or phenylsulfonylamino) and the other = H, HO, (un)substituted C1-4 alkyl, C2-5 alkenyl, C2-5 alkynyl, C1-4 alkoxy, etc.); one of R2 and R3 = W21-A21 (wherein W21 = (un)substituted C1-6 alkylene, (un)substituted alkenylene, CONH, or CONHCH2; A21 = (un)substituted C6-12 aryl or mono- or dicyclic unsatd. heterocyclyl containing same or different 1-3 heteroatoms selected from N, O, and S) and the other = H, (un)substituted C1-4 alkyl, halo; R4, R5 = H, (un)substituted C1-4 alkyl, halo] are prepared These compds. improve insulin resistance and high blood sugar, have antidiabetic activity, and safely control blood sugar. Thus, a solution of 240 mg 2-(4-methylbenzoyl)pyrrole (preparation given) in 2.0 mL THF was added to a solution of

160 mg potassium tert-butoxide in THF 3.0 mL, stirred at room temperature for  $20\,$ 

min, and ice-cooled followed by adding a solution of 370 mg Me [3-[(1E)-3-bromo-1-propenyl]phenoxy]acetate in 4.0 mL THF, and the resulting mixture was stirred at room temperature for 1.5 h to give 31% Me [3-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenoxy]acetate (II). A solution of II in 1 N aqueous LiOH 1.0, THF 1.0, and MeOH 1.0 mL was stirred at room temperature for 30 min, treated with dilute aqueous HCl, and extracted

with EtOAc to give 100% [3-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl] phenoxy]acetic acid (III). When male db/db mice were fed with a feed containing 0.1% III for 2 wk, the blood sugar was lowered by 70%.

IT 474006-64-9P 474006-65-0P 474006-68-3P 474006-69-4P 474006-83-2P 474007-43-7P 474007-45-9P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of pyrrole derivs. as antidiabetics for improving insulin resistance and lowering blood sugar)

RN 474006-64-9 CAPLUS

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CN Acetic acid, [4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 474006-65-0 CAPLUS

CN Acetic acid, [4-[(1E)-3-[2-(4-methoxybenzoyl)-4-methyl-1H-pyrrol-1-yl]-1-propenyl]phenoxy]- (9CI) (CA INDEX NAMÉ)

RN

474006-68-3 CAPLUS
Acetic acid, [4-[(1E)-4-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-butenyl]phenoxy]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN

474006-69-4 CAPLUS
Acetic acid, [4-[(1E)-4-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-butenyl]phenoxy]- (9CI) (CA INDEX NAME) CN

RN 474006-83-2 CAPLUS
CN Acetic acid, [4-[3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propynyl]phenoxy]-, sodium salt (9CI) (CA INDEX NAME)

Na

RN 474007-43-7 CAPLUS

CN Propanoic acid, 2-[4-[(1E)-3-[2-(4-methylbenzoyl)-1H-pyrrol-1-yl]-1-propenyl]phenoxy]- (9CI) (CA INDEX NAME)

RN 474007-45-9 CAPLUS

CN Propanoic acid, 2-[4-[(1E)-3-[2-[4-(1-methylethyl)benzoyl]-1H-pyrrol-1-yl]-1-propenyl]phenoxy]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

5

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L4 6 S L3 FULL

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